120

Willamette Valley Land Adaptability

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ACREAGES OF WILLAMETTE VALLEY LAND TYPES.
BY COUNTIES

COUNTY	TYPE 1	TYPE 2	TYPE 3	TYPE 4	TYPE 1H	TYPE 2H	TOTAL
Benton	31,733	16,047	37,863	12,080	—	108,541	206,264
Clackamas	6,190	66,448	99,763	—	71,546	107,227	351,174
Lane	57,245	53,417	69,642	65,632	—	126,341	372,277
Linn	68,380	35,456	73,084	181,624	6,874	128,258	493,676
Marion	34,594	97,459	126,287	12,647	25,853	132,425	429,265
Multnomah	29,170	66,179	23,336	3,099	19,872	—	141,656
Polk	17,885	33,926	66,561	4,610	6,085	132,754	261,821
Washington	17,580	100,769	34,617	—	69,415	31,355	253,736
Yamhill	10,539	58,147	56,694	—	29,074	126,470	280,924
Total Willamette Valley	273,316	527,848	587,847	279,692	228,719	893,371	2,790,793

SYMBOLS
County Boundaries
Township Lines
Rivers, Streams
Cities
Towns
Scale: 1 Mile
0 1 2 3 4 5
0 5 10 15 Miles
T. 9 S.
T. 8 S.
T. 7 S.
T. 6 S.
T. 5 S.
T. 4 S.
T. 3 S.
T. 2 S.
T. 1 S.
T. 1 N.
T. 2 N.
T. 3 N.
WASHINGTON
McMINNVILLE
HILLSBORO
NEWBERG
BEAVERTON
INDEPENDENCE
DALLAS
MONMOUTH
WOODBURN
SILVERTON
P O L K
Y A M

Willamette Valley Land Adaptability

By

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THE Willamette Valley is a wedge-shaped alluvial plain broken by several ranges of low, undulating hills. The valley floor is about 125 miles in length and has an average width of approximately 25 miles. (See cover page.) It is a distinct physiographic region and as such requires the use of systems of farming which differ in many respects from those in use in similar areas elsewhere.

Soil and climatic conditions in the Willamette Valley permit the production of a great variety of agricultural crops. More than 50 different agricultural crops are being successfully produced commercially. Moreover, the agricultural land in the Valley consists of a mixture of some 34 soil series, each consisting of several soil types. For the entire Valley there are 157 named soil types and these soils vary widely in their adaptability for crop production. Because of this great diversity in soils and crops there is need for a generalized classification of the different soil areas as to their adaptability for agricultural uses.

The objectives of this study were: (1) to make a classification of the agricultural lands of the Willamette Valley into broad areas of fairly uniform adaptability for crop production; and (2) for the areas thus classified to compare kinds of crops grown, types of farming, size of farms, intensity of cultivation, and yield of crops.

Method of Classification. The first step in the classification was a preliminary division of the detailed soil maps of the Willamette Valley, which have previously been prepared in connection with the cooperative soil survey program of the Oregon Agricultural Experiment Station and the Bureau of Chemistry and Soils of the United States Department of Agriculture, into areas of fairly similar soil types. These areas are either predominantly of a single soil type or reasonably uniform mixtures of various soil types. Included in the areas may be small bodies of soils which are inferior or superior to the area as a whole, but which, because of the small area involved, do not justify separate classification in this study. Since this classification is of large areas as a whole, those interested in a specific farm should refer to the detailed soil map and should make a detailed investigation of the farm itself.

This preliminary classification was confined to the main valley floor and adjacent foothills and omits about 20 per cent of the mapped soils that are located in shoestring valleys or heavily timbered sections.

Following the plan of general classification, the land areas are classified into four types of valley lands and two types of hill lands, as follows:

*Resigned October 1, 1936.

LAND CLASSIFICATION, WILLAMETTE VALLEY

Land type number	*Type of land*	*Area predominantly adapted for:*
1	Valley	Intensive crops, such as vegetables, small fruits, hops, etc.
2	Valley	General farming, with limited production of intensive crops.
3	Valley	Hay, grain, and seed production.
4	Valley	Pasture, with limited production of hay, grain and seed.
1H	Hill	Fruit raising and general farming.
2H	Hill	Pasture and extensive cropping.

The approximate acreage of each type of land in each county is shown in tabular form on the map. The predominating and most characteristic soil series in the different types of valley land are Chehalis in type 1, Willamette in type 2, Amity in type 3, and Dayton in type 4. Other soils that occupy considerable area in each of the land types are indicated in the following tabulation:

SOILS PREDOMINATING IN EACH OF THE LAND TYPES

VALLEY SOILS

Land type 1—Chehalis
Newberg
Hillsboro
Columbia
Powell
Muck and Peat (Drained)

Land type 2—Willamette
Sauvie (drained)
Salem (gravel free)

Land type 3—Amity
Camas
Clackamas
Salkum
Courtney
Whiteson
Wapato
Salem (gravelly)
Sauvie (undrained)

Land type 4—Dayton
Veneta
Holcomb
Concord
Sifton
Toutle
Cove
Grand Ronde

HILL SOILS

Land type 1H*—Olympic loam
Olympic silt loam
Olympic clay loam
Melborne loam
Cascade silt loam
Aiken clay loam
Polk clay loam

Land type 2H—All hill soil not in type 1H

Characteristics of the Land Types. The following brief description of the land types is based on a detailed study of farm economic survey records of 991 farms in the Willamette Valley that have been obtained by the Farm Management Department during the past ten years, and 925 Agricultural Adjustment Administration wheat allotment contracts. Although these records do not give a sufficiently representative cross section of the agriculture of the Willamette Valley to justify specific quantitative comparisons between the land types, they indicate the generalized characteristics as noted in the following three paragraphs.

*Type 1H land is comprised of the deeper, better drained, and more favorably located areas of the soils listed. It does not include all land in these soil types.

GRICULTURAL LAND ADAPTABILITY

WILLAMETTE VALLEY, OREGON

PREPARED BY

OREGON AGRICULTURAL EXPERIMENT STATION

WITH COOPERATION OF

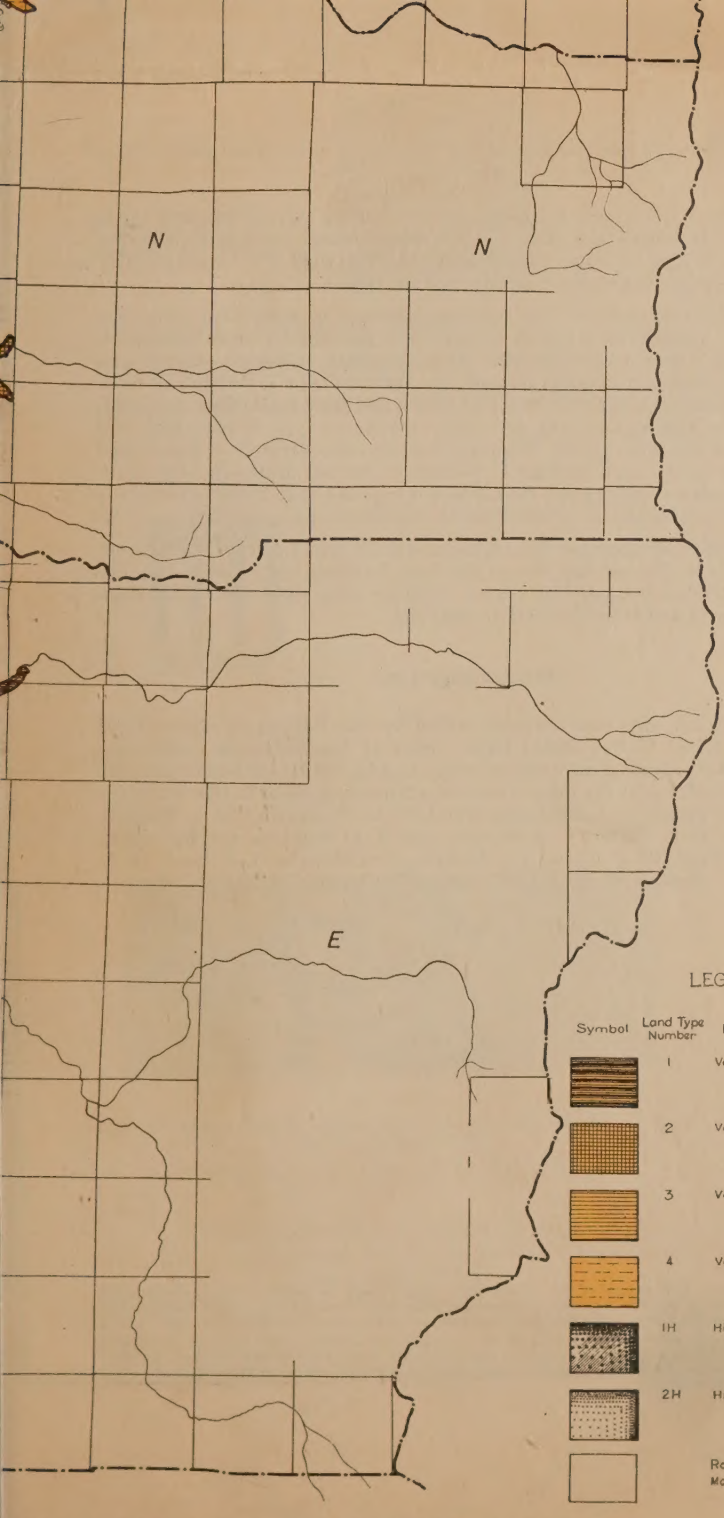
U.S. BUREAU OF AGRICULTURAL ECONOMICS

AND

U.S. RESETTLEMENT ADMINISTRATION, REGION XI

BASE MAP THRU COURTESY OF PACIFIC NORTHWEST FOREST EXPERIMENT STATION

JANUARY, 1936



R. 2 E. | R. 3 E. | R. 4 E. | R. 5 E. | R. 6 E | R. 7 E. |

Dairying is the predominating type of farming on all the land types except type 1H, where it is exceeded by fruit farming. Cash grain farming increases from type 1 to type 4 and from type 1H to type 2H. Crop specialty and truck farming is heavily concentrated on type 1.

The proportion of the crop acreage devoted to intertilled crops decreases from more than a fourth on type 1 to less than a tenth on type 4, and from more than a third on type 1H to less than an eighth on type 2H. The acreage of wheat exceeds that of oats only on type 1, and the ratio of wheat to oats decreases from type 1 to type 4 and from type 1H to type 2H. Alfalfa is the leading hay crop on type 1, clover on type 2, and vetch and grain hays on the other types. Hops are heavily concentrated on type 1, and vetch and rye grass seed on type 4. Whenever market outlets for the products of intensive cropping are developed, it appears that there is room for considerable expansion in production of such crops on types 1, 2, and 1H.

The acreage of crops per farm increased from type 1 to type 4, and from type 1H to type 2H, but the size of the farm business, as measured by the days of work done, is largest on type 1. Average crop yields decreased from type 1 to type 4 and from type 1H to type 2H.

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NOTE: Black line prints of the Willamette Valley map devoted to land adaptability, 30 by 46 inches in dimension, may be obtained from the Farm Management Department, Oregon Agricultural Experiment Station, Corvallis, at actual cost of reproduction and mailing.

A detailed soil survey map of each of the counties is available at the office of the county agricultural agent, or at the Department of Soils, Oregon State Agricultural College. In some counties these maps are still available for distribution, while in other counties they are available for inspection only.